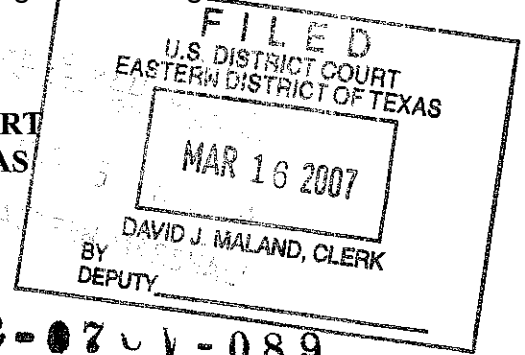


IN THE UNITED STATES DISTRICT COURT  
FOR THE EASTERN DISTRICT OF TEXAS  
MARSHALL DIVISION



SUPERSPEED, LLC.,  
Plaintiff,

v.

IBM CORPORATION,  
Defendant

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Civil Action No. **2-07-cv-089**

**JURY TRIAL DEMANDED**

**COMPLAINT**

This is a patent infringement lawsuit brought by Plaintiff SuperSpeed, LLC ("SuperSpeed"), against IBM Corporation ("IBM") for infringement of United States Patents owned by SuperSpeed.

**I. PARTIES**

1. Plaintiff SuperSpeed is a Delaware limited liability company. SuperSpeed is the successor by merger to EEC Systems, Inc. ("EEC"). In December 2005, SuperSpeed Software, Inc. transferred all of its assets and liabilities to SuperSpeed, LLC. SuperSpeed's principal place of business is 327E Boston Post Road, Sudbury, Massachusetts 01776.

2. Defendant IBM is a New York corporation with its principal place of business at New Orchard Road, Armonk, New York, 10504.

**II. JURISDICTION AND VENUE**

3. This complaint states claims arising under the patent laws of the United States. Plaintiff SuperSpeed asserts causes of action under 35 U.S.C. § 271 for infringement of its patents. This Court has original and exclusive subject matter jurisdiction over this claim under 28 U.S.C. §§ 1331 and 1338(a).

4. Venue is proper in this Court under 28 U.S.C. §§ 1391(b) and 1400(b). Defendant IBM maintains over 20 facilities in Texas for engineering, sales, and distribution, including facilities in the Eastern District of Texas. IBM also advertises and sells its products to distributors and

residents throughout Texas. IBM's activities in this district and in the state of Texas are sufficient to constitute doing business for jurisdiction and venue purposes. A substantial part of the events giving rise to this suit occurred in this district, including acts of infringement by IBM, as well as sales and offers for sale by IBM of infringing products

### **III. BACKGROUND**

#### **Computer Networks And Data Caching**

5. SuperSpeed and its predecessor EEC have developed and marketed software for increasing performance of computers linked together in a network. The software is designed to work in a network environment known as a shared-disk cluster. In this configuration, multiple computers can all communicate with each other and can all access data from the same data storage device or devices, such as hard disks. For example, a bank might have hundreds of computers as part of its network, some for employees handling customer service calls, others for employees running credit checks for loan applications, and so forth. Each of these computers needs access to the bank's customer's credit card records, which are stored on a series of hard disks. A shared-disk cluster permits any one of the computers to communicate across the network with the credit card database on the hard disks, retrieve records for a particular customer, and make changes that will then be available to all other users on the network.

6. Accessing data on hard disks and other mechanical storage devices is a relatively slow process. The speed of data processing operations that require regular access to data on such devices can be significantly impeded by the time required for the computer to communicate with the disk. When multiple computers are all drawing data from the same disk, the process is even slower.

7. SuperSpeed's software helps overcome this problem by permitting data "caching" in a shared-disk cluster network. "Caching" accelerates data processing operations by making a copy of frequently accessed data in the random access memory (or "RAM") of the individual computer that is

using the data. A computer can access data in RAM approximately two-hundred-thousand times faster than data on a hard disk. As a result, caching can increase performance dramatically, particularly when the computer must repeatedly access the same block of data.

### **Data Coherency**

8. Caching in a shared-disk cluster increases data processing speed, but the possibility that more than one computer may request access to the same data at the same time creates potential problems. When different computers have individual caches with copies of the same block of data in RAM, then the system must have some method of maintaining data "coherency." If, for example, a user on one computer modifies a piece of data that is also being stored in the cache of a second computer, then the system must notify the second computer that the data in its cache is no longer valid and that it must obtain an updated copy.

9. The simplest method of maintaining data coherency is to permit only one computer on the network to access a given block of data at a time. When it is finished working with the data in its cache, it copies any changes back to the hard disk and releases the data block for access by other computers. This protects the data, but it impedes performance by forcing all but the first computer to wait for access until the first computer has completed its operation. When the first computer is only reading the data, not altering it, this wait-time is wasteful and unnecessary because data conflicts cannot arise if there have been no changes to the data.

10. To improve performance by maximizing shared access to the data, cache management software distinguishes between computers that need to modify data and those that only need to read it. The distinction is maintained through different categories of data locks. A "read lock" indicates that the data in the cache is current and accurate, but the lock is not exclusive and does not prohibit other computers on the system from also reading the data. An exclusive "write lock" indicates that the computer needs to modify the data and thus it blocks access by other computers on the network.

If a computer has a read lock on a given block of data, and a second computer obtains a write lock, then the first computer's read lock must be downgraded to a "null lock," indicating that the data in the cache is not reliable and may have been updated by another computer.

### **The Cache Driver**

11. The software that implements these methods on a computer network is called cache software. The cache software is loaded on each member of the network performing caching. The cache software on each member maintains information about which computers are caching specific disk drives.

12. The cache software also must have a means for transmitting messages to the cache software on other members on the network. Using this communication channel, the cache software then coordinates locks that permit the copying and updating of data blocks both in RAM memory and on shared disks. For example, when one computer updates a data block in RAM, the other computers that could be caching this same data block must be notified that this data in their caches is invalid. This coordinated locking mechanism is used to maintain cache data consistency and coherency throughout the network.

### **SuperSpeed And EEC's Patents**

13. SuperSpeed's predecessor in interest, EEC, was a pioneer in developing high-performance cache software for use in a shared-disk cluster.

14. EEC's innovations include, for example, a method for limiting the number of invalidate messages sent to other computers whenever a given computer updates a given block of data. Rather than broadcast the invalidate message to every computer on the network, EEC's method sends invalidate messages only to computers that might currently have the relevant data block in their caches. This improves performance by reducing network traffic.

15 A second innovation developed by EEC is a method for momentarily suspending caching operations when a new computer joins the network, establishing connections with the cache software on the new computer, and then reenabling caching on all machines. This protects data that could otherwise be corrupted and saves the administrator of the system from having to reconfigure the caching operations on each machine manually.

16 A third innovation developed by EEC is the use of multiple bucket sizes within the cache of a single computer. Data stored in a cache must be grouped into segments called "buckets." Each bucket holds a single parcel of data that has been copied from the hard disk into the cache. Prior to EEC's innovation, the buckets in a given cache were all a uniform size. If a parcel of data copied into the cache was smaller than the bucket, then the remainder of the bucket went unused but occupied space in the cache nevertheless. On the other hand, if a data parcel was larger than the bucket size, then the data could not be copied into the cache at all. EEC developed cache software that increased cache capacity and data processing efficiency by using three different bucket sizes within the same cache. The cache software identifies the smallest bucket that can hold the parcel of data and thus minimizes the waste due to unused capacity, but also makes large buckets available so large data parcels can still take advantage of the cache.

17 EEC applied for and received patents on its caching methods from the United States Patent And Trademark Office. The 5,577,226 patent (the '226 patent) was filed on May 6, 1994 and issued on November 19, 1996. The 5,918,244 patent (the '244 patent) was filed on May 31, 1996 and issued on June 29, 1999.

18 All of EEC's assets and liabilities, including the '244 and '226 patents, were acquired by SuperSpeed in 1999.

19 SuperSpeed applied for and received additional patents on data caching methods. United States Patent No. 6,370,615 (the '615 patent) was filed on April 27, 1999 and issued on April

9, 2006. United States Patent No. 6,651,136 patent (the '136 patent) was filed on January 16, 2002 and issued on November 18, 2003. United States Patent No. 7,017,013 (the '013 patent) was filed on October 10, 2003 and issued on March 21, 2006. United States Patent No. 7,039,767 (the '767 patent) was filed on April 8, 2004 and issued May 2, 2006. United States Patent No. 7,111,129 (the '129 patent) was filed on November 22, 2004 and issued September 19, 2006.

### **IBM's Product And Infringement**

20. Defendant IBM designs, manufactures, and distributes software for creating computer databases. IBM's software operates on a network in a shared-disk cluster configuration. In other words, multiple users at multiple computers can all share access to common database (or databases) stored on a hard disk (or hard disks). IBM's infringing software products include at least its DB2 product.

21. IBM's software includes cache software for increasing the speed of data processing operations by copying frequently accessed data from a hard disk to the RAM of an individual computer. In a network environment, IBM's cache drivers use a coordinated system of read and write locks to maintain the coherency of the data.

22. IBM derives revenue through the distribution of software, systems, or methods ("caching products") that infringe SuperSpeed's patents, including systems that incorporate infringing components. IBM also derives revenue from installation and customization services for these infringing caching products.

23. The cache software in IBM's software communicate with each other. If one computer in the network modifies a data block in its cache, the cache driver delivers an instruction that invalidates the same data block on other computers. Rather than sending data invalidate messages to every computer in the network, the cache software sends messages only to computers that may be

caching the particular data block that needs to be invalidated. Distribution of software with this feature infringes SuperSpeed's patents.

24. IBM's software also includes a process for suspending cache operations when a new computer is added to the network, establishing a connection to the cache driver on the new computer, and then reenabling cache operations on all computers. Distribution of software with this capability also infringes SuperSpeed's patents.

#### **IV. CLAIM ONE--PATENT INFRINGEMENT**

25. Defendant IBM has infringed and continues to infringe the '244, '226, '136, 615, 013, 767 and '129 patents by making, using, selling, and offering to sell, within the United States, products that come within the scope of the patents

26. Defendant IBM has also infringed and continues to infringe the '244, '226, '136, 615, 013, 767 and '129 patents by actively inducing the infringement of others.

27. IBM's acts of infringement are irreparably harming and causing damage to SuperSpeed.

28. IBM will continue to infringe the patents unless enjoined.

#### **V. JURY DEMAND**

29. SuperSpeed demands a trial by jury on all issues.

#### **VI. PRAYER FOR RELIEF**

30. SuperSpeed seeks an award of damages from IBM in an amount no less than a reasonable royalty on all products and services made, used, sold, or offered for sale by IBM in connection with products that come within the scope of the patents.

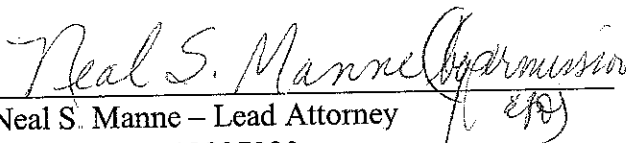
31. SuperSpeed seeks an accounting for all profits made by IBM in connection with products and services made, used, sold, or offered for sale by IBM in connection with products that come within the scope of the patents.

32 SuperSpeed seeks a permanent injunction to prevent IBM's continued unlicensed use of the infringing methods and systems.

33. IBM's conduct makes this an exceptional case as set forth in 35 U.S.C. § 285. Pursuant to this statutory provision, SuperSpeed seeks the recovery of its reasonable and necessary attorneys' fees.

Respectfully submitted,

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